AMENDMENTS TO THE CLAIMS

1. (Canceled)

2. (Currently Amended) A method for the treatment of thrombocythemia in a patient with thrombocythemia comprising

(a) transdermally administering to said patient a skin permeable form of anagrelide or a pharmaceutically acceptable salt of anagrelide in an amount effective to treat thrombocythemia,

(b) ~~to minimize~~ minimizing the amount of first pass liver metabolism of the anagrelide to 3-hydroxy anagrelide in the transdermally administered patient compared to the amount of first pass liver metabolism of an equivalent amount of anagrelide orally administered to a patient,

(c) ~~thereby~~ reducing the plasma concentration of 3-hydroxy anagrelide in the transdermally administered patient compared to the plasma concentration of 3-hydroxy anagrelide in a patient orally administered ~~the~~ an equivalent amount of anagrelide,

(d) reducing the amount of phosphodiesterase-III (PDEIII) inhibition by 3-hydroxy anagrelide in the transdermally administered patient compared to the amount of PDEIII inhibition by 3-hydroxy anagrelide in a patient orally administered an equivalent amount of anagrelide, and

(e) reducing the cardiovascular side-effects caused by PDEIII inhibition in the transdermally administered patient compared to the cardiovascular side effects in a patient orally administered an equivalent amount of anagrelide.

3.-11. (Cancelled)

12. (Previously Presented) The method according to claim 2, wherein said thrombocythemia is associated with essential thrombocythemia (ET), chronic myologenous

leukemia (CML), polycythemia vera (PV), agnogenic myeloid metaplasia (AMM) or sickle cell anemia (SCA).

13. (Previously Presented) The method according to claim 2, wherein the anagrelide or anagrelide salt is administered in an amount of 0.1 to 20 mg/kg/day.

14.-16. (Cancelled)

17. (Previously Presented) The method according to claim 2, wherein the anagrelide or anagrelide salt is in the form of a composition which further comprises at least one skin permeation enhancer.

18. (Previously Presented) The method according to claim 17, wherein said at least one skin permeation enhancer is linalool, carvacrol, thymol, citral, menthol, oleic acid, or t-anethole.

19. (Previously Presented) The method according to claim 2, wherein administration is via a transdermal patch having a single-layer drug-in-adhesive system comprising a composition containing the anagrelide or anagrelide salt, one or more excipients, and at least one skin-contacting adhesive, which is combined with a single backing film.

20. (Previously Presented) The method according to claim 2, wherein administration is via a transdermal patch having a multi-layer drug-in-adhesive system wherein: (a) said system comprises at least two distinct layers comprising the anagrelide or anagrelide salt and at least one adhesive, and a membrane between said at least two layers or (b) said system comprises at least two distinct layers comprising the anagrelide or anagrelide salt and at least one adhesive, and a single backing film.

21. (Previously Presented) The method according to claim 2, wherein administration is via a transdermal patch having a reservoir transdermal system comprising a liquid compartment containing a solution or suspension of the anagrelide or anagrelide salt, a release liner, and between

said release liner and said liquid compartment, a semi-permeable membrane and at least one adhesive.

22. (Previously Presented) The method according to claim 2, wherein administration is via a transdermal patch having a matrix system comprising a semisolid matrix containing a solution or suspension of the anagrelide or anagrelide salt which is in direct contact with a release liner, and a skin adhesion component incorporated in an overlay which forms a concentric configuration around said semisolid matrix.

23.-50. (Cancelled)